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MEMORANDUM FOR: Deputy Director for Support

SUBJECT: Profile for the Support Officer of 1980

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1.   This paper is submitted in response to your invitation to describe what a typical Support Officer might look like in 1980. As in any theoretical effort which is normative in scope certain basic assumptions are required; therefore, this paper makes the following assumptions:

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A.   the Support Directorate, which generally functions as a reactive organization, should strive to become more proactive in its relationships with the other Directorates and Independent Offices;

B.   it is a desirable goal for the management of the Support Directorate to achieve full parity with the managements of the other Directorates and Independent Offices in terms of participation in Agency goal setting and decision-making;

C.   the Deputy Director for Support (DD/S) recognizes that the performance of the Directorate is to a large extent a function of the prevailing attitudes of its officers and their perceptions of the Directorate's value system.
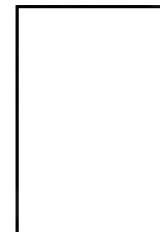
2.   As implied by the above assumptions, the Support Directorate has been indirectly controlled by the other Directorates and Independent Offices because it has traditionally taken its behavioral cues from these other decision-makers and their respective value systems. If the Deputy Director for Support subscribes to the postulated goal of changing the Support Directorate to a proactive organization which functions as a coequal participant in Agency goal setting and decision-making, three dimensions of the Support Officer must be recognized: (1) the Support

Officer as a self-conscious and knowing actor within the Agency's environment; (2) his understanding, acceptance and commitment to the Directorate's goals, objectives and value system; and (3) his feeling of full acceptance by others to participate in Agency goal setting and decision-making. While the problem can be analysed on an individual level, it is obvious that the proactivity of one officer will not transform the Directorate. A transformation of this magnitude will require the concerted effort of all Support Officers, each of whom must activate his respective organization. Collectively, this new proactive attitude and behavior pattern will have an impact on both the Directorate and the Agency.

3. Given an acceptance of the three major dimensions of molding a proactive organization, the central element would seem to be the individual actor. In the case of the Support Directorate, the individual actor is the Support Officer.[1] Consequently, this paper, while recognizing the importance of the other two dimensions, will concentrate on the modest objective of describing a profile for the Support Officer in 1980. In general, three basic skills would seem to be required of any Support Officer in the performance of his job; that is, each officer must possess a certain admixture of technical, human and conceptual skills. These skills are defined as follows:

> Technical skill--a knowledge or expertise in a given discipline and the facility to apply the methodology of that discipline, e.g., technical skill is acquired and practiced within each functional office of the Directorate and by the "S" careerists whose expertise is a general knowledge of the support process;

> Human skill--a facility for developing good interpersonal relationships and working effectively as a leader or member of a group;

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> Conceptual skill--the intellectual ability to perceive one's organization and its goals as part of a larger and more complex institutional setting and to act accordingly.

As a general observation, we can say that the relative importance of the mix of these three skills to an organization is a

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[1] Support Officer is defined generically as any officer executing a support function and under the command jurisdiction of the DD/S.

function of one's place in the organization hierarchy.
For example, technical skill should have its greatest
importance at the lower levels while conceptual skill
becomes critical at the highest levels of management
responsibility. By extension we can hypothesize that
while technical skill becomes relatively less important
as one progresses in responsibility, the importance of
conceptual skill increases exponentially and becomes
critical at the most senior level of a given organization.
Unfortunately, most organizations are not overstaffed with
people who can function equally well on all three skill
levels, and the Support Directorate cannot be touted as
an exception to the rule. For example, the Support Officer
who demonstrates exceptional technical skill is not
necessarily capable of demonstrating a comparable level
of conceptual skill. If the ability to conceptualize a
problem, define alternatives and select an optimum course
of action is not a common skill among all men, how can
we begin to identify and develop this skill in our officers.
It is the position of this paper that the development of
conceptual skill is a function of experience and formal
education, and neither on-the-job experience nor academic
achievement alone can commonly result in the conceptual
skill required at the more senior levels of management.

4. Whereas the development of a closed and rigid system
would be dysfunctional to the Directorate in the long run,
it is imperative that we begin to identify the general mix
of experience and education that should be expected of Support
Officers in 1980.[2] While Support Officers may eventually
share common attributes and commitments to the Directorate's
goals, objectives and value system, there should also be
distinct and observable differences in the performance require-
ments and credentials for officers at each level in the
organization. This paper is not asserting that the profiles
illustrated below are necessarily complete; it is, however,
suggesting that certain combinations of experience and education
should be basic to a given level of achievement within the
Directorate. Three achievement levels or groups have been
selected to illustrate basic profiles:

    A. Junior Level (GS-07 to GS-11). Professionals
entering at the junior level (direct hires or career
trainees) should be college graduates who have

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[2] See Tab A which suggests that by 1980 more CIA officers
in general will have participated in post graduate study, and
more Support Officers in particular will have completed post
graduate work in their chosen field.

articulated an interest in an administrative career. While it may be desirable to recruit a certain percentage of junior officers who have completed post graduate programs in specialized fields where they will be working, e.g., engineering, personnel administration or accounting, post graduate work is not seen as an essential element for entry into the junior levels of the Support Directorate. In terms of past work experience some junior officers will enter from the college campus, some from military service and others from work experience in both the public and private sector. What is important for the junior professional is that he understand that he is expected to develop a proficiency in certain technical and human skills (see above) and improve his knowledge of both his chosen speciality and the field of public administration.[3] For the purpose of this paper, it is not relevant to attempt an identification of a desirable mix of line and staff experience.[4] What is important is that the junior officer acquire and develop basic technical and human skills, understand the Directorate's goals, objectives and value system and demonstrate an interest in improving his professional knowledge.

B. Middle Level (GS-12 to GS-15). While there are obvious gradations between expected performance levels, personal attributes, experience and education required for professionals in the middle level of their work life, there are still basic requirements we can identify for these Support Officers. For example, it does not seem unreasonable to expect these officers as a group to have demonstrated an ability to conceptualize problems, develop viable alternatives, choose and implement a rational course of action. They must also possess the ability

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[3] This requirement recognizes public administration as a professional discipline and not as a "second career," and prescribes that any specialist, e.g., engineer, psychologist, computer specialist, lawyer, etc. who has managerial aspirations seek formal training in public administration to enhance his chance for success and ultimate value to the organization.

[4] For an interesting evaluation the relevance of line and staff experience, see Tab B, an abstract of Phillip Kelley's article "Reappraisals of Appraisals," Harvard Business Review, May-June 1958, p. 13

to apply both technical and human skills when such knowledge is required. Moreover, it does not seem unreasonable to expect officers at this middle level to display initiative, creativity and knowledge of the field of public administration. Since knowledge is a perishable commodity, it is important that these officers demonstrate a professional's interest in keeping abreast of the latest developments in public administration and related fields.[5] For example, participation in professional organizations, attendance at professional conferences and Civil Service seminars and post-graduate study would all be acceptable indicators of professional interest. In short, middle level officers who aspire to management positions must not only perform well in their assigned jobs, but should also demonstrate that they have executive potential and a professional's interest in keeping abreast of the latest research and developments in the general field of public administration.[6]

C. Senior Level (GS-16 to EPS). A senior level officer should be a public administrator par excellence. He should be an executive who possesses full mastery of his area of responsibility, a generalist's appreciation of the Directorate and Agency's culture and their respective constituencies, and an ability to apply the knowledge and experience gained over time to the challenge of leading others and managing activities to a successful conclusion.

In terms of executive style, he should be self-actualizing, proactive and capable of applying

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[5] Related fields could be defined as information science, public financial and personnel administration, organization behavior, management science, public policy, and public law.

[6] A few professional associations that would seem relevant to the Support Directorate are: American Society for Public Administration, American Association of Information Sciences, American Society for Training and Development, Society for Personnel Administration, American Medical Association, American Psychiatric Association, American Psychological Association, Association of Federal Investigators, Federal Accountant's Association, and the Institute of Electrical and Electronic Engineers.

both his knowledge of the organization and his
profession to problems. He must, therefore, be
openminded enough to alter his choices as he
receives fresh information from the environment
around him and objective enough to redefine
problems, identify new alternatives and convert
decisions into rational actions. Most importantly,
the senior executive must be futuristic in orientation;
that is, he should be able to anticipate problems
before they are manifested and apply his sense of
creativity in ascertaining possible solutions. The
senior officer of 1980 will also be required to have
an appreciation of the problems inherent in the
managing of organization change; consequently,
he will need a professional's respect for new ideas,
techniques and methodologies and a willingness to
try new and often bold approaches that may not
always guarantee success.
     In terms of personal attributes, he should
display a professional's acumen of the fundamental
distinction between the concept of leadership
(the ability to motivate superordinates, peers
and subordinates) and the concept of management
(the planning, and control of programs or activites).
As for professional credentials, it does not seem
unreasonable to expect him to hold a graduate
degree in public administration or related field,
be involved in a program of continuing education
and be active in professional associations.[7]
In short, the senior level executive should be
the personification of a true generalist.

     5. Having identified the magnitude of the problem of
moving the Support Directorate to a more cohesive and pro-
active posture, the admixture of professional skills required
at various levels of work within the Directorate and general
profiles for Support Officers of the future, one might ask
what has to be done now to transform the Support Directorate
into a successfully proactive and equal member of the Agency
management team. How does one achieve a new order without
completely destroying the confidences of colleagues earned
over the years. How does one change prevailing attitudes

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[7]One's active participation in professional associations
would, of course, be a function of his cover situation; however,
at the senior level, cover is not usually a major constraint.

within an organization without reverting to edict and the ramifications of arbitrary action. Part of the answer lies in understanding what organizational leadership is and part in conveying this concept to others on the management team. Leadership is a function of three rather complex variables: the individual, the group of followers and the organizational environment. To overcome the current reactive nature of the Support Directorate, a new style of leadership must be exhibited--a leadership style that communicates a clear sense of direction and a consuming sense of urgency. While the development of dynamic leadership is the responsibility of all officers in managerial positions, the catalyst must be the Deputy Director for Support (DD/S). He must think and act not just as a manager in the traditional sense of that term but as a strategist and an architect of change. This posture means that the DD/S must seize the initiative in identifying problem areas and encourage new and innovative solutions; it means supporting people who articulate new approaches or who take issue with the status quo; it means rewarding those who are willing to tackle major policy issues or established procedures; and, finally, it means convincing talented young professionals that the future of the Directorate depends to a large extent on their willingness to think creatively and to act professionally in helping more experienced officers shape the organization's future.

6. To recapitulate, neither academic achievement nor work experience alone can ensure that an individual officer will be equipped to handle the future problems of the Support Directorate; namely, the management of change, the leading of people and the developing and managing of a flexible organization which is capable of meeting internal and external pressures for change. Too frequently, the experience factor has received a disproportionate emphasis in the Support Directorate. Too many Support Officers have spent too much time analyzing past actions in search of clues on how to respond to today's problems. The Support Officers of 1980 cannot afford to remain service technicians; they must have the trained public administrator's ability to meld past experiences with a healthy skepticism toward existing policies and practices. Experience will always be a valuable guide, but the status quo deserves no special reverence.

7. In conclusion, it is the position of the writers of this paper that the Central Intelligence Agency of 1980 will require leaders who are futuristic in orientation and possess the ability to understand, stimulate and manage change. As part of the Agency's management team, the Support Officer of the future must be a professionally educated and experienced

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public administrator; he must be receptive to new ideas and methods; and he must have earned the professional respect of other Agency colleagues.
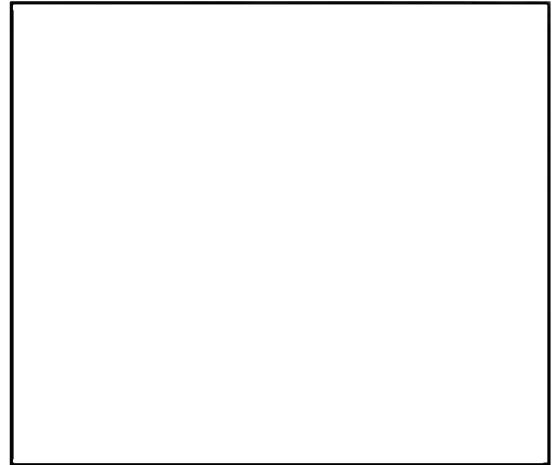
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TABA - EDUCATION OF SENIOR CIVIL SERVICE EMPLOYEES
BY GRADE, AGE AND DEGREE (as of 1971)[A]

	GS 15 AND EQUIVALENTS UNDER 50	GS 15 AND EQUIVALENTS 50 AND OLDER	GS 16—18 AND EQUIVALENTS UNDER 50	GS 16—18 AND EQUIVALENTS 50 AND OLDER
LESS THAN BACHELOR DEGREE	7%	18%	3%	12%
BACHELOR BUT NOT A MASTERS	37%	33%	30%	34%
MASTERS AND PH. D	56%	49%	67%[B]	54%[C]
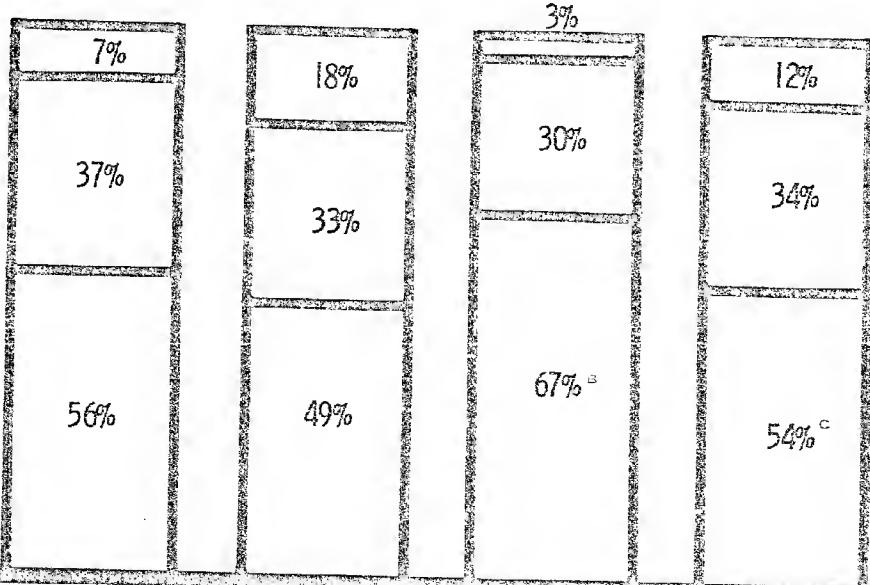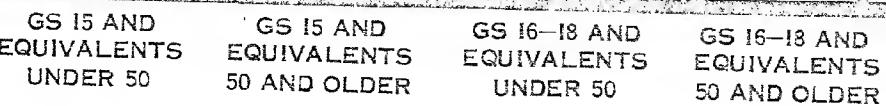
A.   EXECUTIVE MANPOWER IN THE FEDERAL SERVICE, BUREAU OF EXECUTIVE
     MANPOWER, U. S. CIVIL SERVICE COMMISSION (1972).

B.   OF THIS 67%,

C.   OF THIS 54%, 31% HOLD MASTERS DEGREES AND 23% HOLD THE PH. D OR EQUIVALENT

culties in making salary decisions and appraisals, particularly in those positions where quality or creativity may be the performance index rather than quantitative factors.

As costs rise and profit margins shrink, such positions draw the quickest attention for managerial cost control. Part of this can undoubtedly be attributed to what Peter Drucker calls the "obsolete vocabulary of business." Drucker feels that terms such as "overhead," "productive labor," and "nonproductive labor" are semantically misleading. As he points out, the productivity differential between Western Europe and the United States is not a matter of capital investment but of analyzing, planning, re-examining, and innovating." And it is true that the greatest contributions to profitability may stem from those areas labeled "overhead."

I am not sure, however, that this fact is generally understood. For the concept of determining contributions to profitability in terms of the immediately measurable "productive activity" is the warp and woof of the American tradition. Part of this concept stems from early time-and-motion study concepts of productivity, cost accountability, and measurement which still permeate much management thinking. Another part of the concept undoubtedly does go back to traditional ideas about line and staff — with the line seen as the "productive" phase of an organization, and the staff seen as "overhead." These ideas came from an era when the chief need was to "turn out the goods" to fill the expanding needs of both United States and world economics; the line job of "turning out the goods" was the major and overriding interest, and staff work was seen as merely a supporting activity of the line.

But in today's fast-tightening competitive picture, we may find the traditional roles reversed, with line production activities in support of a total marketing effort heavily centered around staff activities. For the real wellsprings of profitability these days lie in management's ability to analyze and plan, to attain a sensitivity to change, and to develop the ability to respond quickly to new conditions. Terms such as line and staff have become meaningless in their traditional concept, for every activity is concerned with producing optimum profitability.

The Busy Executive

I am tempted to relate some of the above problems to our Puritan heritage of sal-

vation and atonement through physical work. Management analysts link this to some of our national built-in predilections for *seeming* to "keep busy," and I suspect that these predilections may unconsciously influence our standards of managerial behavior and performance. To what extent is our appraisal philosophy automatically loaded in favor of the obviously "busy" executive — and action for action's sake? Let us consider a few examples:

¶ Here is Executive X, amiable head of a sizable department. His phone is constantly busy. He dashes from meeting to meeting, carries home heavy loads of work, takes a certain delight in overtime work, and never takes vacations. Those of his staff who have not moved out may be withering on the vine for lack of a chance to show what they can do. A real one-man band, his demise will find a weak organization, ill-prepared to carry on now that the kingpin has gone.

Actually, Mr. X might cease to be so busy if he were willing to delegate, to organize better, to be a manager rather than a doer. In fact, to be brutally blunt, if he would take the time to sit down and meditate, he might discover that 90% of his activity could be saved by the clarification and issuance of a few policy decisions.

¶ On the other hand, consider Mr. Y — quite the opposite of Mr. X. He never seems harassed. He spends a good deal of time on planning and on staff work. He gives out both responsibility and recognition freely, worries more about his people than himself. Constantly at work at the inconspicuous job of developing others, he has fostered a flow of people to key posts in the company. And if he were to vanish tomorrow, his department would continue to function smoothly and well.

To what extent does our management tradition of "obvious busyness" lead us to rate Mr. X's performance and contribution over Mr. Y's? Should management reappraise not only its appraisal methods but also its basic ideas of what constitutes real and meritorious performance? For, in truth, the "good" manager, like a topnotch performer in any field, "makes it look easy." The better he does his work as a leader-manager, the less "noise" he makes and the less other men will appreciate his accomplishment. He will not continually seek to grab power or credit, but to give it, so that he will attract less attention on this score, too.

Unfortunately, such performance is discouraged not only by the techniques but also by

* Peter F. Drucker, *The Practice of Management* (New York, Harper & Brothers, 1954), pp. 42–43.

Toward a Program for Professionalization in the Field of Management

Technological advances and a reduced work-force pose special problems for the development of NSA's future managers

In the past ten years, new analytic systems such as econometrics, operations research, systems analysis, and planning-programming-budgeting have had a profound impact on the Federal Government. We find ourselves talking in new terms—cost-benefit, sub-elements, CIRIS, data standardization, and—perhaps just around the corner—planning-programming-evaluation (PPE). These new techniques are designed to increase precision and comprehensiveness in thinking: to help us to identify national goals, to pin down as precisely as possible variables and options, and, where possible, to quantify, for more exact calculation.

A direct parallel to this trend is NSA's professionalization program. For the first time we are trying to identify—and even assign numerical values to—those qualities of background, capability, and accomplishment requisite to the title "professional" in NSA's arsenal of technical skills. And despite our falters, backslides, and misunderstandings, we have made progress. There is cogent evidence, for example, that the new breed of professionals, those who have passed the hurdles set for them by the various career panels, are among the best NSA has to offer, now clearly identified for the first time in measurable terms.

Somehow through all of this we have failed to identify and come to a consensus on the prerequisites of a professional in management. We made one noble attempt: the Crypto-Management Council established at the behest of the Director in 1965. Although the council held great promise, it appears to have been dissolved or become dormant. As a result, lacking a consciously constructed concept of the professional manager, we have only the fuzziest notion of what a manager is supposed to be. As things stand now, one could conclude by reading Agency regulations and examining promotion patterns that at NSA

(a) management is not considered a career field (let alone a profession); (b) management has few identifiable required skills; (c) management training is desirable but optional (at least as a prerequisite); and (d) more than half of those promoted to GG–14 and above are managers.

The inconsistency of our thinking on this point is a major stumbling block to improvement of our managers. And our failure to recognize management as a profession puts us in the minority. Management, under various names, is a field of advanced study at major universities, and the private sector has long recognized management as a professional field, at least as demanding and sophisticated and just as challenging as any other. The object of this study is to argue for a clear definition of the NSA manager and the establishment of management as a professional career field with its own panel, criteria, and intern program.

Why Professional Managers?

At NSA we are fond of pointing out how our technical sophistication has grown along with that of our targets on the one hand, and how our ability to deny foreign Comint efforts information from our communications has kept well ahead of our adversaries on the other. As the following paragraphs will, I hope, make clear, we are approaching a time when the growth and development of our management will have to parallel that of our technology to deal with crises already in the making. Problems now gestating will result from the intersection of apparently independent trends.

Technology

The first trend is the rising rate of technological advancement and complexity. Reference to a few acronym

and project names—IATS, EXPLORER, TENNIS, FROSTING, EDITROL, AUTOLINE, TIPS, and RUFFER—should be enough to bring to mind the vast technological change we are going through.

The AMPS program exemplifies in the small what some of these programs may become in the large. As unglamorous and utilitarian as it may seem, AMPS has affected us more than we notice. It is symptomatic of other technological advances in the following respects:

1. Its invention required the linking up of several newly devised electronic and computer systems. In other words, AMPS is an example of technology feeding on itself.

2. Its invention required creativity—the ability to project possibilities by bringing together diverse elements.

3. Its introduction occasioned notable resistance among some of its prospective users (although less than a program affecting more or larger functions would have).

4. The introduction of some mechanized systems was plainly required by the growing volume of message correspondence. In other words, AMPS represented an adaptation to meet the needs of change.

5. Its introduction increased the importance of, and transferred more control to, typists since, to a greater degree than in the past, only they know how to prepare an outgoing message.

By abstracting and projecting these five features, we arrive at some laws of change, all of which have profound implications for the future:

1. Each advancement in technology invites a proliferation of other advances made possible by the new discovery.

2. Creativity is an essential element in such advances.

3. Change engenders resistance.

4. Change engenders change.

5. Change and technological advance tend to increase dependence on, and place a greater share of decision-making in, the hands of technicians trained to deal with new and highly complex concepts or procedures. As a corollary, advanced technology increases specialization; greater specialization increases interdependence among increasingly narrow specialists in different disciplines and effectively reduces the ability of the manager to command.

People

The second trend—likely soon to intersect with the first—is the way people are changing, within the Agency and without. The following statements, taken from Toffler, Drucker, and the results of the official 1970 census, provide some startling indications of the shape of things to come:

—Ninety per cent of all scientists who have ever lived are living and working now. One definition of a scientist is a person who discovers new things or new relationships between things. And we can expect more scientists than we have now.

—Three-fifths of all people currently employed in the United States are managerial, executive, technical, or professional. The number of people so employed is growing three times as fast as the population.

—Two-thirds of all people now employed in the United States do not work with their hands.

—Three-quarters of those employed have at least a high-school education; one-third have some college; 16 per cent have college degrees (compared with 6 per cent thirty years ago).

If the figures given above for the U.S. working force were adjusted to represent the NSA population, they would all go up. For example, 29.5 per cent of the NSA population have a bachelor degree or better; all but 5.2 per cent have graduated from high school; those who work with their hands are a very small percentage; those in managerial, executive, technical, or professional categories make up considerably more than three-fifths of the NSA population. In sum, the vast majority of the NSA population are people trained to use their minds and make judgments. Such people can be expected to (a) question commands, (b) demand a degree of autonomy, and (c) consider growth and development in their work almost a right.

There is empirical evidence suggesting that a substantial number of NSA employees believe themselves both capable of more than the Agency asks of them and over-educated for the jobs they hold. A study performed in 1966 on a sample of 546 employees to assess attitudes toward utilization showed that 42 per cent of the respondents felt that "some people" did not have enough work to keep them busy—that is, that their capacity was greater than the challenge of their jobs, at least in terms of quantity. A similar survey performed about two years later on a similar

professional SRA but spends most of his time worrying about management, which, he says, he enjoys more than other fields. Tom is now completing work on his Masters Degree in Government with a concentration in management at George Washington University. He has written articles on language and translating for *Command* and *Dragon Seeds*.

sample of 674 employees—this ... e drawn only from PROD—showed a 10 per cent increase in the number of people who responded in the same way. Only slightly more than one third of the respondents to the 1968 survey felt that their knowledge, skill, and abilities were being used fully. Eighty per cent wanted information on career goals and opportunities that was not being provided by supervisors.

Statistics about the population of NSA provide other indicators of burgeoning people problems likely to worry managers in the future. The size and composition of the Agency population have changed rather significantly during the past ten years. Following a spurt of growth that took the population from 11,609 in fiscal year 1962 to 17,499 in fiscal year 1967, our rate of growth slowed greatly through the end of the sixties—reaching 19,290 in 1970. By February 1971, the population had declined slightly—to 18,853—for the first time in ten years. The growth-decline rate is important to management because of other tendencies it introduces. Anthony Downs, in his *Inside Bureaucracy*, points out that innovative people are attracted to a growing organization where opportunities are great and advancement is promising. When the growth rate slows or when decline occurs, advancement opportunities disappear rapidly. The aggressive and innovative, according to this school of thought, either (a) become dissatisfied and leave, or (b) lose their forward thrust and become conservative or alienated.

The degree of aggressiveness or innovativeness among NSA employees has not, to the best of my knowledge, been measured. But the decrease of advancement opportunities (promotions) during periods of slowing growth predicted by Downs has become apparent at NSA. In 1962, the NSA civilian grade structure resembled an onion-shaped dome with the largest number of people at the grade seven and nine level:

hundreds

16 14 12 10 8 6 4 2 0 2 4 6 8 10 12 14 16

GG rating: 18 17 16 15 14 13 12 11 9 7 5 4 3 2

Total civilian population:

15,050
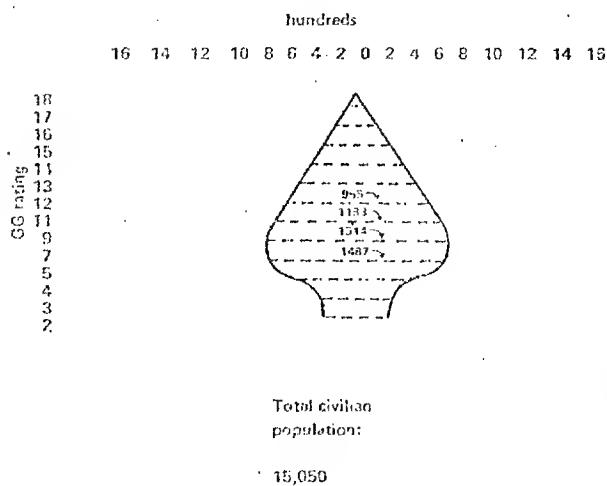
By February 19— the shape of the grade structure had altered, with the bulge moving upward toward the grade thirteen level:

hundreds

16 14 12 10 8 6 4 2 0 2 4 6 8 10 12 14 16

GG rating: 18 17 16 15 14 13 12 11 9 7 5 4 3 2
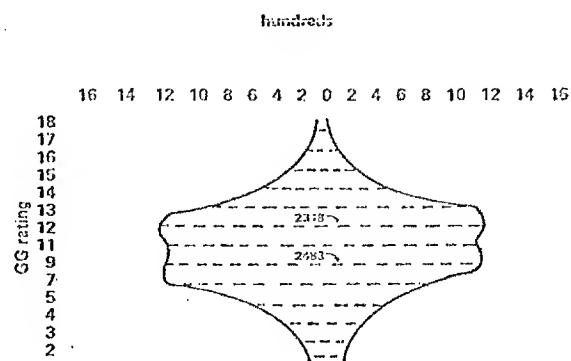
This shift presumably explains the ceilings on grade levels between GG–11 and GG–13. The ceilings explain the pressure being applied by persons in these grades for promotion.

Closely related is another feature observed by organizational theorists like Downs: the "age lump" phenomenon—the tendency for the average age of organization members to rise as the organization ages (unless the organization continues to grow). The age-lump is beginning to form at NSA. The civilian population of the Agency increased by about 19 per cent between 1965 and 1970, but the number of those 41 or over rose at a higher rate (25 per cent) than did the overall Agency population or any other segment. Moreover, from 1969 to 1970, the figures for those 40 or younger and for those 30 or under began to decline and the total for those over 31 and those over 41 rose. Therefore, if the current rate of hiring and separations continues, we can expect as time goes on that the onion shape of age distribution will begin to look more and more like the spinning-top shape.

If Downs and other theorists are correct, this reshaping will increase even further the pressure for promotion (as large numbers attain seniority simultaneously) followed by a growth of conservatism and alienation and a waning of innovation among the population of the agency. There are some signs of frustration and disillusionment already. In the 1968 survey quoted earlier, more than one half of the respondents felt there was not enough opportunity for advancement in their PROD Group. The intervening years and grade ceilings must surely have exacerbated these feelings.

Succinctly put, our management concern during the seventies is this: advances in technology will increasingly demand people with imagination and consummate technical skill at precisely the same time that other factors, having to do with grade structure and age distribution and resulting from budgetary restraints, will be encouraging conservatism and alienation. This is not an insurmountable problem, but it does require first-class managers. And, as this is written in mid-1971, we have yet to identify the attributes of a manager.

How Good Are Our Managers Now?

Unfortunately, we have no really reliable way of knowing how good our managers are. Our product and services defy objective quantitative evaluation; hence, measurement of managerial effectiveness by achievement of objectives is virtually impossible. On the other hand, inasmuch as we have not defined what management is and have no consensus on what the manager should do or how he should do it, we have little way of measuring in any supportable way how well each individual manages. But we have developed certain systems worth reviewing for indications.

Utilization Surveys

One is the measurement of the effect of management in terms of the feelings of the managed. The two surveys referred to earlier, conducted in 1966 and 1968, and a host of others like them, provide valuable insight into the attitudes of our work force. Both surveys, despite danger signals for the future already mentioned, showed general contentedness—and some complacency—on the part of the work population. This tells us that on the whole our management is not drastically bad. It also suggests that it is not outstandingly good. Wide-spread complacency is hardly a symptom of a passionately committed work force.

Performance Appraisals

Rating of performance in management, a field for which there are no established criteria, is at best a questionable way of measuring effectiveness. Nevertheless, it indicates what superiors think about their subordinate managers. Unmistakably, managers are very well thought of. In 1968, 17 per cent of the performance appraisals written at NSA were outstandings; 39 per cent of the GG-15's—the grade of upper-middle level managers—received outstandings. In 1969, 19 per cent of the appraisals written were outstanding; and 48 per cent of GG-15's were rated outstanding.

The figures are high enough to make us ask, "outstanding in comparison to whom?" The answer, as indicated by the figures, seems to be, in comparison with the lower grades of the NSA population. The percentage of those receiving outstanding performance appraisals declines with grade.* Between grades 11 and 15, the percentage of outstandings by grade remains above the percentage of outstandings for the total civilian population. From grade 11 on down, the percentage by grade declines slowly until it reaches zero at the GG-2 level. In other words, at about the level where management duties begin to be important, the proportion of outstandings rises sharply. From this we may tentatively conclude that we believe our managers to be far better at their undefined jobs than our lower ranking technicians. We cannot, however, measure the quality of our manager in management terms from these data.

Selection of Managers

It might be possible to estimate or predict the effectiveness of managers if we could determine where they came from. There is little direct statistical evidence available on the source of management talent in the agency, but it appears that we choose our fledgling managers primarily from among technicians.** In general, the technician judged to be the most able is selected for management positions, sometimes after a period of time in staff work. This is a sensible procedure only as long as we have not specified the qualifications of a manager and have no way to measure for management qualities. But this selection procedure carries with it two far-reaching but unarticulated assumptions: (a) that the best technicians make good managers, and (b) that good managers must be good technicians first.

The trouble with these assumptions is that they confuse two ideas. The first is that it is important for a manager to understand the technical skills required of his subordinates. Few will argue this point. The second is that technical proficiency leads to managerial proficiency—at best a questionable proposition. One of the faults of the statement is the lumping together of skills required in the various technical professions when clearly the skills vary greatly from one profession to the next. Thus "technical proficiency" means a variety of different things depending on the profession. Another fault is the belief that the same skills used in a technical profession will be used in

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*An exception appears at the low-population grades, GG-6, GG-8, and GG-10 which are invariably rated very high.

**"Technicians" as used in this article refers to trained specialists in the recognized professional disciplines of the Agency, such as traffic analysis, language, and cryptanalysis. It is used to stand in contrast with the term "managers." It does not refer to employees in professional fields who are in grade 11 or below (as opposed to "analysts" in grades 12 and above).

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management, a belief that leaves out of account those skills heavily stressed in management (such as interpersonal relations) which have little importance in purely technical work.

These contradictions are fairly obvious. Yet the linking of technical competence to managerial competence is reinforced by our promotion system, which requires professionalization in a technical specialty before an employee can be promoted to GG–13. And most middle and upper management positions can be filled only by persons at grades GG–13 and above. This tells us, in short, that our managers are likely to be good technicians; it tells us little about their ability to manage.

To summarize: The best data we have, which are admittedly lacking in precision and depth and open to more than one interpretation, point in the direction of adequate management. We can be somewhat more confident of what our management is not—excellent. Clearly, we need better ways to measure, to say nothing of controlling, the quality of management.

Defining the Manager

I have tried to argue thus far that (a) wherever NSA may stand in relation to technological development, it is becoming outmoded in its concepts—or lack of concepts—of management; (b) we need professional managers now, but we will need them more urgently in coming years, as the forces of technology, changes in people, and grade-age structure pressures intersect; and (c) although we have not defined the manager, our meager evidence points toward less than ideal conditions. The first step in dealing with any of these issues is to define what a manager is.

In essence, a manager does three things: (1) he establishes organizational goals; (2) he decides how best to achieve those goals; and (3) he works through others toward those goals. These three functions, frequently executed in coordination with other managers, lead to myriad duties—collecting data as the basis for decision-making, allocating resources, developing subordinates, budgeting, conducting liaison and coordination, for example—but all of these actions derive directly or indirectly from the three essential responsibilities. In its simplest form, then, the definition of a manager can be stated as one *who decides on organizational goals and the means to achieve them, and attempts to achieve them through the work of others.*

With such a definition we can attempt to identify some of the desirable attributes of the NSA manager:

1. *He must be intelligent and educated.* "Intelligence" in this context should be understood as the ability to relate facts and arrive at a conclusion. It implies the ability to see relationships, patterns, and parallels. "Education" here does not necessarily mean formal education backed by a degree or diploma. It means, rather, fine tuning of the mind, so that one is able to think in multiple systems of logic, to deal comfortably with ambiguity, to be both free of *set* (that proclivity of the mind to re-use a previously successful solution to a problem) and able to profit from and exploit useful experience.

2. *He must know and like people.* In other words, he must be able to put himself in others' shoes, to understand how they think and feel, and to be largely free of both fear and bias. He must take joy in watching people grow and be able to live with the mistakes of his subordinates. He must know how to choose people for the right kind of work. He must be able to listen when others speak. He must know how to make himself understood to a wide variety of people.

3. *He must be emotionally healthy.* While there is no universally accepted definition of mental health, it can be understood here as the ability to perceive measurable objective reality largely as it is, undistorted by pathologies which reshape the world to make it less frightening or more comfortable. This ability is the cornerstone of the two qualities cited in paragraphs 1 and 2 above.

4. *He must know the work of those under his supervision.* He must understand the techniques, tools, goals, costs, and limitations of the work which he manages. He should be a teacher and coach, able to make clear to his subordinates the relationships between what they are doing and other events and techniques around them.

5. *He must be creative.* Creativity means the willingness to experiment with the novel and be open to the untried. Its characteristics are the ability to suspend judgment and toy with the absurd, to see beyond technological limitations to possibilities of bringing together discrete elements or people into new relationships and projecting likely results.

6. *He must want to be a manager.* His desire to manage must arise from his recognition that it is the kind of work that most suits his abilities and inclinations. Yearnings for power, prestige or promotion should not be dominant motives.

Selecting and Training Managers

From the foregoing it should be clear that most of the qualities sought in a manager can be sharpened, shaped, and enhanced through training, but training will not instill or create them. Selection, then, is a key to success.

Tests have been developed for all the qualities listed as requisite for the manager. Some of these tests are still primitive, but they are at least reliable enough to be used as indicators. Where the tests are markedly imperfect, as, for

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example, are indices for creativity, NSA research psychologists can work toward improving them, in consultation with outsiders from academic and business circles. Work of this sort takes time and money, but the results should far outweigh the costs.

Aside from testing, observing people on the job can be useful for the identification of traits needed in management. The major problem here is training supervisors to be on the lookout for personnel with these traits. A clear definition of what the traits are and possibly training on how to recognize them might be helpful. A revision of performance appraisals or the use of personnel evaluation forms tailored to elicit remarks on management potential are other possible devices.

Recruiting college graduates who manifest the defined attributes is yet another possibility. Young men and women trained in such fields as psychology, business administration, management science (or its equivalent by other names) and public administration are likely candidates for Agency management training.

These and other systems of selection should be used in concert to assure that young people selected for management training do in fact possess management potential and that all likely candidates are considered. Because of their individual weaknesses, any one of these systems of selection may, on occasion, disqualify the qualified and admit the unqualified.

In keeping with the definition of a manager posited earlier, the training of a potential manager must stress disciplines most likely to (a) strengthen the ability to work through people, and (b) enhance the aptitude to make sound decisions. Toward the first of these goals, a potential manager should be required to develop some competence in as many of the following fields as possible: psychology, sociology, communication (written and oral), behavioral science, organizational theory, and management science (or administration). The last three are admittedly hybrid studies that have not attained the status of classic academic disciplines. But their usefulness for training managers is patent.

Toward the second goal—sound decision-making—training should stress mathematics, philosophy, systems analysis or operations research, general semantics, linguistics, computer technology, statistics, economics, various kinds of engineering, and such new devices as DELPHI and decision tables. The point of these studies is to reinforce the ability to use various kinds of logic for comparing options and building alternative mixes.

Both goals can be aided by new techniques designed to increase awareness of the self and its relationship to its environment. When used properly, these techniques can hone perception and promote awareness of personal strengths and weaknesses—including those which can be improved. Schooling in still-experimental fields—such as futurism, creativity, and achievement—may be worth investigating as an aid to expanding the ability to project and relate.

The Management Career Panel

The precariousness of projecting ideas from a definition which is in itself open to dispute will no doubt have struck the reader. I do not maintain that there is an empirical basis for these ideas; they represent no more than a rudimentary attempt to build the theoretical framework on which to hang a management professionalization program.

How, then, might we go about producing a flesh-and-blood management program for NSA? One step would be to establish a panel for management made up of exceptionally well-qualified professionals representing a wide range of talents. Selection from the following would assure a good mix: (a) senior Agency managers, ideally Group chiefs or higher; (b) management experts from the Personnel Organization and the National Cryptologic School; (c) outstanding young managers from the branch or division level; and (d) qualified experts from outside NSA—from universities, consulting firms and businesses.

The group assembled from these sources would be given the charter of (a) defining NSA management and the attributes required; (b) identifying criteria for professionalization in management; (c) establishing selection criteria for management interns; and (d) defining training both for future managers and for those serving as managers.

Were the panel to proceed along the line of the theories outlined above, it would probably limit admission to the intern programs to those who (a) were recommended by their supervisors, (b) had already spent some time at NSA (perhaps three or more years*), and (c) could qualify through a battery of tests. The intern program would stress training in the fields mentioned above and work assignments focussed on problem-solving, of both a technical and human variety, in a real-world environment. Training would probably require attendance at schools outside NSA, including after-hours study. Proficiency in various technical fields, gained in tours and by extensive course work, might be tested by a requirement for written studies on problems in specified fields such as mathematics, linguistics, traffic analysis, or signals analysis; each

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*An alternative is the selection of those who are already managers at branch and division level. I like this possibility less because of the variability of selection criteria which put these managers in position to begin with.

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paper would be judged by the career panel responsible for that discipline. Or, depending on how important the panel judged technical competence to be, the intern might be required to pass one or more PQE's in another profession.

The Costs and Unresolved Problems

Each of the above proposals raises many practical problems, but I believe that they are solvable. One point implicit in any kind of management professionalization program that might not be immediately apparent, however, is the dramatic change in NSA that such a program would produce. Systematic study of management as a profession will introduce into the NSA management system quantities of new ideas and the attendant pressures for change. The younger the potential managers, the more likely that new ideas will take root. Many of these ideas will seem alien to senior managers. The literature on management is filled with new ways of looking at organizations and people, and the study of management is evolving and maturing as fast, say, as computer technology. But it is also richly experimental. These statements are in the nature of a warning: a deliberate study of management as a discipline will instigate demands for change in many of the traditional modes of operation within the Agency. In my view, the question is not whether we are willing to risk these pressures, but how to cope with them when they come. For there seems to be little alternative to working, consciously and deliberately, toward professional NSA management.